What is claimed is:

1. An image processing apparatus comprising:

a detecting unit that detects all pieces of additional information that are embedded in image data;

an analyzing unit that analyzes the detected pieces of additional information and judges whether any of the detected pieces of additional information includes predetermined information that is updateable; and

an embedding unit that

(1) updates, when a judgment result of the analyzing unit is affirmative, the predetermined information included in the piece of additional information, and embeds the updated predetermined information into the image data at a location where the predetermined information is originally embedded, and

(2) embeds, when the judgment result of the analyzing unit is negative, a new piece of additional information including updated information into the image data at a location that does not overlap locations where the detected pieces of additional information are embedded, the updated information being equivalent to the predetermined information.

2. The image processing apparatus according to Claim

1, further comprising,

an extracting unit that extracts the detected pieces of additional information from the image data, and sends the extracted pieces of additional information to the analyzing unit,

wherein the embedding unit embeds each of the detected pieces of additional information and the new piece of additional information by referring to location information showing a location of each of the extracted pieces of additional information, the location information being sent by the extracting unit.

3. The image processing apparatus according to Claim 1,

wherein when the analyzing unit analyzes the detected pieces of additional information, the analyzing unit employs a predetermined embedding format used by the embedding unit.

4. The image processing apparatus according to Claim 1, further comprising,

a warning unit that issues, when the analyzing unit finds that any of the detected pieces of additional information is unanalyzable, a warning to the effect that the piece of additional information is unanalyzable.

5. The image processing unit according to Claim 1, wherein when the analyzing unit finds that any of the detected pieces of additional information is unanalyzable, the analyzing unit judges that the piece of additional information does not include the predetermined information.

6. The image processing apparatus according to Claim 1,

wherein the predetermined information includes information about a date when the image data is processed.

7. An image forming apparatus equipped with an image processing apparatus that processes inputted first image data so as to output second image data, the image forming apparatus forming an image according to the second image data,

the image processing apparatus comprising:

a detecting unit that detects all pieces of additional information that are embedded in the first image data;

an analyzing unit that analyzes the detected pieces of additional information and judges whether any of the detected pieces of additional information includes predetermined information that is updateable; and

an embedding unit that

(1) updates, when a judgment result of the analyzing

unit is affirmative, the predetermined information included in the piece of additional information, and embeds the updated predetermined information into the first image data at a location where the predetermined information is originally embedded, and

(2) embeds, when the judgment result of the analyzing unit is negative, a new piece of additional information including updated information into the first image data at a location that does not overlap locations where the detected pieces of additional information are embedded, the updated information being equivalent to the predetermined information,

wherein the first image data embedded with the updated predetermined information and/or the new piece of additional information is outputted as the second image data.

8. The image forming apparatus according to Claim 7,

wherein the image processing apparatus further comprises,

an extracting unit that extracts the detected pieces of additional information from the first image data, and sends the extracted pieces of additional information to the analyzing unit, and

the embedding unit embeds each of the detected pieces

of additional information and the new piece of additional information by referring to location information showing a location of each of the extracted pieces of additional information, the location being sent by the extracting unit.

9. The image forming apparatus according to Claim 7, wherein when the analyzing unit analyzes the detected pieces of additional information, the analyzing unit employs a predetermined embedding format used by the embedding unit.

10. The image forming apparatus according to Claim 7, wherein the image processing apparatus further comprises,

a warning unit that issues, when the analyzing unit finds that any of the detected pieces of additional information is unanalyzable, a warning to the effect that the piece of additional information is unanalyzable.

11. The image forming apparatus according to Claim 7, wherein when the analyzing unit finds that any of the detected pieces of additional information is unanalyzable, the analyzing unit judges that the piece of additional information does not include the predetermined information.

12. The image forming apparatus according to Claim 7, wherein the predetermined information includes information about a date when the image data is processed.

13. A method for embedding additional information in image data comprising:

a first step of detecting all pieces of additional information that are embedded in the image data;

a second step of analyzing the detected pieces of additional information and judging whether any of the detected pieces of additional information includes predetermined information that is updateable; and

a third step of updating, when a judgment result in the second step is affirmative, the predetermined information included in the piece of additional information, and embedding the updated predetermined information into the image data at a location where the predetermined information is originally embedded, and

a fourth step of embedding, when the judgment result in the second step is negative, a new piece of additional information including updated information into the image data at a location that does not overlap locations where the detected pieces of additional information are embedded, the updated information being equivalent to the predetermined

information.

14. The method for embedding additional information in image data according to Claim 13,

wherein the first step further includes a substep of obtaining location information for each of the detected pieces of additional information, and

the piece of additional information and the new piece of additional information are respectively embedded into the image data in the third step and in the fourth step, by referring to the location information for each of the detected pieces of additional information obtained in the substep.

15. The method for embedding additional information in image data according to Claim 13,

wherein when the detected pieces of additional information are analyzed in the second step, a predetermined embedding format used for embedding the piece of additional information in the third step and the new piece of additional information in the fourth step is employed.

16. The method for embedding additional information in image data according to Claim 13, further comprising,

a warning step of issuing, when any of the detected pieces

of additional information is judged to be unanalyzable in the second step, a warning to the effect that the piece of additional information is unanalyzable.

17. The method for embedding additional information in image data, according to Claim 13,

wherein when any of the detected pieces of additional information is judged to be unanalyzable in the second step, the piece of additional information is judged not to include the predetermined information.

18. The method for embedding additional information in image data according to Claim 13,

wherein the predetermined information includes information about a date when the image data is processed.

19. The method for embedding additional information in image data according to Claim 13, further comprising,

a step of forming an image according to the image data that includes one of (a) the updated predetermined information embedded in the third step and (b) the new piece of additional information embedded in the fourth step.

20. A program that is executed by a computer, the program

making the computer function as the following:

a detecting means for detecting all pieces of additional information that are embedded in image data;

an analyzing means for analyzing the detected pieces of additional information and judging whether any of the detected pieces of additional information includes predetermined information that is updateable; and

an embedding means for

(1) updating, when a judgment result of the analyzing means is affirmative, the predetermined information included in the piece of additional information, and embedding the updated predetermined information into the image data at a location where the predetermined information is originally embedded, and

(2) embedding, when the judgment result of the analyzing means is negative, a new piece of additional information including updated information into the image data at a location that does not overlap locations where the detected pieces of additional information are embedded, the updated information being equivalent to the predetermined information.

21. The program according to Claim 20, making the computer further function as the following,

an extracting means for extracting the detected pieces of additional information from the image data, and sending the extracted pieces of additional information to the analyzing means,

wherein the embedding means embeds each of the detected pieces of additional information and the new piece of additional information by referring to location information showing a location of each of the extracted pieces of additional information, the location information being sent by the extracting means.

22. The program according to Claim 20,

wherein when the analyzing means analyzes the detected pieces of additional information, the analyzing means employs a predetermined embedding format used by the embedding means.

23. The program according to Claim 20, making the computer further function as the following,

a warning means for issuing, when the analyzing means finds that any of the detected pieces of additional information is unanalyzable, a warning to the effect that the piece of additional information is unanalyzable.

24. The program according to Claim 20,

wherein when the analyzing means finds that any of the detected pieces of additional information is unanalyzable, the analyzing means judges that the piece of additional information does not include the predetermined information.

25. The program according to Claim 20,

wherein the predetermined information includes information about a date when the image data is processed.

26. An image processing apparatus comprising:

a detecting unit that detects additional information that is embedded in image data; and

an embedding unit that embeds new additional information in the image data at a location that does not overlap a location where the detected additional information is embedded.

27. A method for embedding additional information in image data, comprising:

a first step of detecting additional information that is embedded in image data; and

a second step of embedding new additional information into the image data at a location that does not overlap a location where the detected additional information is embedded.

28. A program that is executed by a computer, the program making the computer function as the following:

a detecting means for detecting additional information that is embedded in image data; and

an embedding means for embedding new additional information into the image data at a location that does not overlap a location where the detected additional information is embedded.